

O I P E 14928
APR 21 2006
PATENT & TRADEMARK OFFICE

Docket No.: 63472(50533)
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application of:
Signe M. Christensen et al.

Application No.: 10/535,472

Confirmation No.: 4416

Filed: December 19, 2005

Art Unit: N/A

For: AMINO-LNA, THIO-LNA AND ALPHA-L-
OXY-LN

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

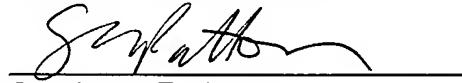
This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 63472(50533).

Dated: April 21, 2006

Respectfully submitted,



Stephana E. Patton

Registration No.: 50,373
EDWARDS ANGELL PALMER & DODGE
LLP

P.O. Box 55874
Boston, Massachusetts 02205
(617) 439-4444
Attorneys/Agents For Applicant



PTO/SB/08a/b (07-05)

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Substitute for form 1449A/B/PTO				Complete if Known	
				Application Number	10/535,472-Conf. #4416
				Filing Date	December 19, 2005
				First Named Inventor	Signe M. Christensen
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	3	Attorney Docket Number	63472(50533)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			

FOREIGN PATENT DOCUMENTS					
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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)			
BA	WO-WO 99/14226		03-25-1999		
BB	WO-WO 98/39352		09-11-1998		
BC	WO-WO 01-48190 A2		07-05-2001		
BD	WO-WO 00/66604 A2		11-09-2000		
BE	WO-WO 01/25478 A1		04-12-2001		
BF	WO-WO 01/25248 A2		04-12-2001		

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NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
CA	Neilsen et al., "Synthesis of 2'-O,3'-C linked bicyclic nucleosides and bicyclic oligonucleotides" J. Chem. Soc., Perkin Trans. 1, pp. 3423-3433 (1997).				
CB	Nielsen et al., "A novel class of conformationally restricted oligonucleotide analogues: synthesis of 2', 3' -bridged monomers and RNA-selective hybridisation", Chem. Commun., 9:825-826 (1997).				
CC	Christensen, et al., "A novel class of oligonucleotides analogues containing ...", J. Am chem Society, 120:5458-5463 (1998)				
CD	Koshkin et al., "Synthesis of Novel 2',3'-Linked Bicyclic Thymine Ribonucleotides", J. Org. Chem., 63(8):2778-2781 (1998)				
CE	Koshkin et al, "The First Analogues of LNA (Locked Nucleic Acids): Phostphorothioate-LNA 2'-THIO-LNA" ,J. Am Chem. Soc., 120(50): 13252-13253				
CF	Kumar et al., "Design and characterization of decoy oligonucleotides containing locked nucleic acids" Bioorg & Med. Chem. Lett., 8:2219-2222 (1998)				
CG	Braasch et al., "Implications of High-Affinity Hybridization by Locked Nucleic Acid Oligomers for Inhibition of Human Telomerase", Biochemistry, 41(14): 4503-4510 (2002)				
CH	Crinelli et al. "Design and characterization of decoy oligonucleotides containing locked nucleic acids", Nucl. Acid Res., 30(11):2435-2443 (2002)				
CI	Elayadi et al., "Implications of High-Affinity Hybridization by Locked Nucleic Acid Oligomers for				

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Sheet	2	of	3	Attorney Docket Number	63472(50533)

		Inhibition of Human Telomerase" Biochemistry, 41:9973-9981 (2002)	
	CJ	Jacobsen et al., "LNA-enhanced detection of single nucleotide polymorphisms in the apolipoprotein E", Nucl. Acid Res., 30(19), in press (2002)	
	CK	Kurreck et al., "Design of antisense oligonucleotides stabilized by locked nucleic acids" Nucl. Acid REs. 30(9), 1911-1918 (2002)	
	CL	Obika et al., "2'-O,4'-C-Methylened Bridged..." Bioorg & Med. Chem., 9:1001-1011 (2001)	
	CM	Braasch et al., "Locked nucleic acid (LNA): fine-tuning the recognition of DNA and RNA", Chem. & Bio., 55:1-7 (2000)	
	CN	Wahlestedt et al, "Potent and nontoxic antisense oligonucleotides containing locked nucleic acids", PNAS, 97 (10): 5633-5638 (2000)	
	CO	Freier et al., "The ups and downs of nucleic acid duplex stability: structure-stability studies on chemically-modified DNA:RNA duplexes" Nucl. Acid Res., 25(22):4429-4443 (1997)	
	CP	Cook, "Making drugs out of oligonucleotides: a brief review and perspective" Nucleosides & Nucleotides, 18 (6&7), 1141-62 (1999).	
	CQ	Singh, "Synthesis of Novel Bicyclo...", J. Org. Chem., 63:6078-6079 (1998)	
	CR	Singh et al, "The Adenine Derivative..." J. Org. chem. 63:10035-10039 (1998)	
	CS	Rajwanshi et al., "High-affinity nucleic acid recognition using 'LNA' ..." J Chem. Commun, pp. 2073-2074 (1999)	
	CT	Hakansson et al., "The Adenine Derivative of x-L-LNA (a-L-ribo Configured Locked Nucleic Acid): Synthesis and High-Affinity" Bioorg Med. Chem Lett, 11:935-938 (2001)	
	CU	Rajwanshi et al., "LNA stereoisomers: xylo-LNA..." Chem. Commun., pp. 1395-1396 (1999)	
	CV	Wengel et al., , "LNA (Locked Nucleic Acid) And the Diastereoisomeric...", Nucleotides & Nucleic Acids, 20(4-7):389-396 (2001)	
	CW	Rajwanshi et al., "The Eight Stereoisomers of LNA (Locked Nucleic Acid): A Remarkable Family of Strong RNA Binding Molecules "Angew Chem. Int. Ed., 39(9):1656-1659 (2000)	
	CX	Petersen et al., "a-L-LNA...", J. Am. Chem. Soc., 123:7431-7432 (2001)	
	CY	Sorensen et al., "a-L-ribo-Configured Locked Nucleic Acid (a-L-LNA): Synthesis and Properties", J. Am Chem. Soc., 124(10):2164-2176 (2002)	
	CZ	Vester et al., "LNAzymes: Incorporation of LNA-Type Monomers into DNAzymes Markedly Increases RNA Cleavage", J. Am Chem. Soc., 124(46)L13682-13683	
	CA1	Arzumanov et al, "Inhibition of HIV-1 Tat-Dependent Trans Activation by Steric Block Chimeric 2'-O Methyl/LNA Oligoribonucleotides", Biochemistry 40:14645-1465 (2001)	
	CB1	Zamecnik et al, "Inhibition of Rous sarcoma virus replication and cell transformation" , PNAS, 75(1):280-284 (1978)	
	CC1	Bennett et al., "Antisense oligonucleotides as a tool for gene functionalization and target validation" Biochim. Biophys. Acta, 1489:19-30 (1999)	
	CD1	Crooke, "Antisense Therapeutics", Biotechnol. Genet. Eng. Rev., 15:121-57 (1998)	
	CE1	Wengel, J., "LNA (Locked Nucleic Acid)", In Antisense Drug Technology: Principles, pp. 339-355 (2001)	
	CF1	Simeonov et al., "Single nucleotide polymorphism genotyping using short, fluorescently labeled locked...". Nucleic Acids Research, 30(17), in press (2002)	
	CG1	Childs et al., "Oligonucleotide directed misfolding of RNA inhibits Candida albicans group I intron splicing", PNAS, 99(17):11091-11096 (2002)	
	CH1	L. KIENICKE et al., "alpha-L-RNA (alpha -L-ribo Configured 'RNA'): Synthesis and RNA-Selective Hybridization of alpha-L-RNA/alpha-L-LNA CHimera." Bioorganic & Medicinal Chemistry Letters, Vol. 12, 4, 2002 pages 593-596	

Examiner Signature		Date Considered
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				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	3	of	3	Attorney Docket Number	63472(50533)

	CI1	M. FRIEDEN et al., "Expanding the design horizon of antisense oligonucleotides with alpha-L-LNA," Nucleic Acids Research, Vol. 31, No. 21, 2003, pp. 6365-6372.	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	Filing Date December 19, 2005
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	Attorney Docket Number 63472(50533)

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Firm Name	EDWARDS ANGELL PALMER & DODGE LLP		
Signature			
Printed name	Stephana E. Patton		
Date	April 21, 2006	Reg. No.	50,373



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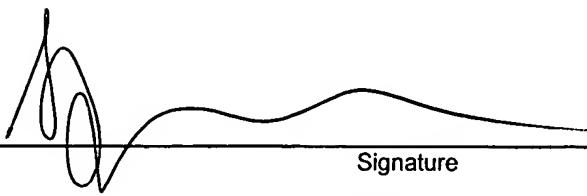
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